



General

Guideline Title

Stem cell transplantation in multiple myeloma.

Bibliographic Source(s)

Kouroukis CT, Rumble RB. Stem cell transplantation in multiple myeloma. Toronto (ON): Cancer Care Ontario (CCO); 2012 Mar 29. Various p. (Recommendation report; no. SCT-1). [16 references]

Guideline Status

This is the current release of the guideline.

The RECOMMENDATION REPORT, initially the full original Guideline, over time will expand to contain new information emerging from the reviewing and updating activities.

Please visit the [Cancer Care Ontario Web site](#) for details on any new evidence that has emerged and implications to the guidelines.

Recommendations

Major Recommendations

- Autologous stem cell transplantation (SCT) is the recommended treatment option for patients with newly diagnosed multiple myeloma (MM), as part of the initial treatment plan.
- Tandem (double) autologous SCT is an option for patients with MM who respond to the first autologous transplant with less than a very good partial response, but not progressive disease.
- Allogeneic transplantation is an option for patients with high-risk MM preferably within the context of an investigative study.
- Repeat autologous transplantation is an option for patients with MM who relapse after a long remission (>2 years) to a single autologous transplant.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Multiple myeloma (MM)

Guideline Category

Assessment of Therapeutic Effectiveness

Treatment

Clinical Specialty

Hematology

Oncology

Intended Users

Health Care Providers

Physicians

Guideline Objective(s)

- To evaluate the role of stem cell transplantation (SCT) in the treatment of multiple myeloma (MM)
- To review the most current evidence comparing treatment modalities that include an SCT component
- To make a series of clinical recommendations to inform clinicians, patients, and other stakeholders of the treatment options available

Target Population

All adult multiple myeloma (MM) patients considered for treatment that includes blood or marrow transplantation

Interventions and Practices Considered

1. Autologous stem cell transplantation (SCT)
2. Tandem (double) autologous SCT
3. Allogeneic transplantation
4. Repeat autologous transplantation

Major Outcomes Considered

- Treatment-related mortality
- Survival (overall and event-free)
- Complete response rate
- Time without symptoms of disease or toxicity of treatment

Methodology

Methods Used to Collect/Select the Evidence

Description of Methods Used to Collect/Select the Evidence

Literature Search Strategy

The MEDLINE (OVID) database (2006 through August [week one] 2010) was systematically searched for evidence on August 18, 2010, using the strategy that appears in Appendix A of the original guideline document. This search strategy was used for Evidence-based Series (EBS) 6-6, a completed Clinical Practice Guideline covering the use of high-dose chemotherapy along with stem cell support for patients with multiple myeloma (MM). For the purposes of this review, only the papers including data on stem cell transplantation (SCT) were retained.

A total of 634 hits were obtained; after excluding irrelevant papers according to a title and abstract review, 27 were ordered for full-text review. Of these 27, only seven met the inclusion criteria and were retained.

Study Selection Criteria

Inclusion Criteria

Articles were selected if they were the following:

1. Systematic reviews with or without meta-analysis or clinical practice guidelines (CPGs) if the evidence was obtained with systematic review
2. Fully published randomized controlled trials (RCTs) on patients with MM who received SCT that reported on survival and/or quality of life (QoL)
3. Fully published non-randomized studies on patients with MM who received SCT that had an appropriate contemporaneous control group that reported on survival or QoL
4. Reports published in English only, because of a lack of translation funding

Number of Source Documents

A total of seven papers were retained, two randomized controlled trials (RCTs), one individual patient data (IPD) meta-analysis, and four clinical practice guidelines (CPGs).

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus (Committee)

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Synthesizing the Evidence

While no pooling of data was planned for this report, it would be considered if data allow.

Assessment of Study Quality

The quality of the included evidence was assessed as follows. For systematic reviews that would be used as the sole evidence base for the recommendations, the Assessment of Multiple Systematic Reviews (AMSTAR) tool would be used to assess quality. For clinical practice guidelines (CPGs), the Appraisal of Guidelines for Research and Evaluation (AGREE) II Instrument would be used, but only if an adaptation of the recommendations was being considered. Where recommendations from CPGs were not adapted, the evidence base in those CPGs would be informally assessed for completeness, and any relevant evidence within would be considered as a basis for recommendations in this report. Any meta-analysis would be assessed for quality using criteria similar to that used for randomized controlled trials (RCTs), where appropriate. RCTs would be assessed for quality by examining the following seven criteria: the method of randomization, reporting of blinding, the power and sample size calculation, length of follow-up, reporting details of the statistical analysis, reporting on withdrawals to treatment and other losses to follow-up, and reporting on the sources of funding for the research. Comparative, but non-randomized, evidence would be assessed according to the full reporting of the patient selection criteria, the interventions each patient received, and all relevant outcomes.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

This advice report, produced by the Program in Evidence-based Care (PEBC), Cancer Care Ontario (CCO), is a convenient and up-to-date source of the best available evidence on stem cell transplantation in multiple myeloma, developed through a systematic review of the available evidence.

This recommendation report was created to update the 2009 Stem Cell Transplantation in Adults report. Using the recommendations in that report as a starting point, a literature search from the original report's literature search dates to the date current for this study was performed to gather the most evidence.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Comparison with Guidelines from Other Groups

Description of Method of Guideline Validation

These recommendations are in concordance with the recommendations made in the other clinical practice guidelines obtained, which are summarized in Appendix C of the original guideline document.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The recommendations are supported by randomized controlled trials, a meta-analysis, and clinical practice guidelines.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate use of stem cell transplantation (SCT) in multiple myeloma (MM)

Potential Harms

Stem cell transplantation (SCT) is associated with toxicity and treatment-related mortality.

Contraindications

Contraindications

Co-morbidities and poor performance status are contraindications to autologous stem cell transplantation (SCT).

Qualifying Statements

Qualifying Statements

- The patient selection process and the ultimate decision to perform a stem cell transplantation (SCT) should take into account not only disease-related characteristics, but also co-morbidities and patient preferences. Evidence on the role of SCT in the management of multiple myeloma (MM) is emerging rapidly. This topic is also the subject of Program in Evidence-based Care (PEBC) Evidence-based Series (EBS) 6-6, which will be updated to incorporate new data. EBS 6-6 differs from this report in that it includes only evidence comparing high-dose chemotherapy and SCT in patients with MM, whereas this report includes comparisons of all interventions including SCT such as radiotherapy and other treatment modalities.
- Care has been taken in the preparation of the information contained in this report. Nonetheless, any person seeking to apply or consult the report is expected to use independent medical judgment in the context of individual clinical circumstances or seek out the supervision of a qualified clinician. Cancer Care Ontario makes no representation or guarantees of any kind whatsoever regarding the report content or use or application and disclaims any responsibility for its application or use in any way.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Quick Reference Guides/Physician Guides

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Identifying Information and Availability

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2012 Mar 29

Guideline Developer(s)

Program in Evidence-based Care - State/Local Government Agency [Non-U.S.]

Guideline Developer Comment

The Program in Evidence-based Care (PEBC) is a Province of Ontario initiative sponsored by Cancer Care Ontario and the Ontario Ministry of Health and Long-Term Care.

Source(s) of Funding

The Program in Evidence-based Care (PEBC) is a provincial initiative of Cancer Care Ontario supported by the Ontario Ministry of Health and Long-Term Care through Cancer Care Ontario. All work produced by the PEBC is editorially independent from its funding source.

Guideline Committee

Hematology Disease Site Group

Composition of Group That Authored the Guideline

For a current list of past and present members, please see the [Cancer Care Ontario Web site](#) .

Financial Disclosures/Conflicts of Interest

The authors of this recommendation report disclosed potential conflicts of interest relating to the topic of this special advice report and declared there were none.

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Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the [Cancer Care Ontario Web site](#) .

Availability of Companion Documents

The following are available:

- Stem cell transplantation in multiple myeloma. Summary. Toronto (ON): Cancer Care Ontario; 2012 Mar 29. 5 p. Electronic copies: Available in Portable Document Format (PDF) from the [Cancer Care Ontario \(CCO\) Web site](#) .
- Program in evidence-based care handbook. Toronto (ON): Cancer Care Ontario (CCO); 2012. 14 p. Available in PDF from the [CCO Web site](#) .

Patient Resources

None available

NGC Status

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